

definition for TR_OV_STATE_FEMPLOYEE contains data indicating that a request for an Insert or Update on the Object View, is a trigger event, i.e. the "Insert On" clause, control passes to step 570.

At step 570, the database server executes the trigger associated with the view. In this example, database server 202 executes the instructions associated with the instead-of trigger TR_OV_STATE_FEMPLOYEE. As a result of executing the instructions, a new employee is inserted into table FORMER_EMPLOYEE. This example illustrates a significant advantage of instead-of triggers. Data in tables may be modified through views through which, without instead-of triggers, the data could not be modified.

At step 550, base tables associated with the view are modified based on translation of view, if the view is inherently modifiable.

In the foregoing specification, the invention has been describe with reference to specific embodiments thereof. It will, however, be evident that various modifications and changes may be made thereto without departing from the broader spirit and scope of the invention. The specification and drawings are, accordingly, to be regarded in an illustrative rather than a restrictive sense.

CLAIMS

What is claimed is:

1. A method for presenting data from a set of one or more tables as a set of objects, the method comprising the steps of:
reading data from one or more rows of the set of one or more tables;
generating an object id based on values from said one or more rows; and

presenting data from said one or more rows as an object having said object id.

The method of Claim 1, wherein the step of generating an object id based on values includes generating an object id based on values from one or more rows of a relational table that belongs to the set of one or more tables.

The method of Claim 1, further comprising the step of generating a reference to the object based on the object id.

The method of Claim 3, further comprising the step of accessing the object based on the reference generated for the object.

The method of Claim 1, wherein:

the method further includes the steps of:

receiving a request to define a view, said request specifying one or more columns of the set of one or more tables containing values used to generate said object id;

in response to receiving the request to define the view, storing specification data that specifies the one or more columns; and

the step of generating an object id based on values from said one or more rows includes determining how to generate the object id by inspecting said specification data.

The method of Claim 5, wherein the step of receiving a request to define a view includes receiving a request that specifies the one or more columns as including at least one column from a relational table.

A method for presenting as an object data from a set of one or more tables residing in one or more databases, the method comprising the steps of:

3 reading a first set of data from one or more rows of tables that belong to the set of one or
4 more tables;
5 generating a column object based on said first set of data; and
6 presenting a second set of data from tables that belong to said set of one or more tables as
7 said object that has said column object as an attribute.

Sub DP 2 8. The method of Claim 7, wherein the step of reading data from one or more rows includes reading data from one or more rows of at least one relational table.

Sub F2 9. The method of Claim 7, wherein the step of generating a column object includes generating a collection object.

Sub H 10. The method of Claim 9, wherein the step of generating a collection object includes generating said collection object as a list of elements belonging to a single data type.

1 11. The method of Claim 9, wherein the step of generating a collection object includes
2 generating said collection object as a nested table.

Sub F2 12. The method of Claim 9, wherein the step of generating a column object includes generating a column object belonging to a user specified object type.

1 13. The method of Claim 9, where the step of generating a column object includes generating
2 a column object that is a reference to another object.

1 14. The method of Claim 13, wherein the step of generating a column object includes
2 generating a column object that is a reference to an object presented by an object view.

1 15. The method of Claim 13, wherein the step of generating a column object includes
2 generating a column object that is a reference to an object residing in a database.

Sub H 16. A computer system, comprising:

2 a processor;
3 a memory coupled to said processor;
4 a set of one or more tables, said set of one or more tables containing one or more rows;
5 said processor configured to read data from one or more rows of the set of one or more
6 tables;
7 said processor configured to generate an object id based on values from said one or more
8 rows; and
9 presenting data from said one or more rows as an object having said object id.

17. The computer system of Claim 16, wherein said values from said one or more rows
includes values from one or more rows of a relational table that belongs to said set of one
or more tables.

18. The computer system of Claim 16, further comprising:

said processor configured to receive a request to define a view, said request specifying
one or more columns of the set of one or more tables containing values used to
generate said object id;

said processor configured to respond to receiving the request to define the view by
storing specification data that specifies the one or more columns; and

said processor configured to generate the object id based on values from said one or more
rows by determining how to generate the object id by inspecting said specification
data.

19. A computer system, comprising:

a processor;

a memory coupled to said processor;

in response to receiving the request to define the view, storing specification data

that specifies the one or more columns; and

the step of generating an object id based on values from said one or more rows includes

determining how to generate the object id by inspecting said specification data.

23. The computer readable medium of Claim 22, wherein the step of receiving a request to

define a view includes receiving a request that specifies the one or more columns as

including at least one column from a relational table.

24. A computer-readable medium carrying one or more sequences of one or more

instructions for presenting, as an object, data from a set of one or more tables residing in

one or more databases, wherein the execution of the one or more sequences of the one or

more instructions causes the one or more processors to perform the steps of:

reading a first set of data from one or more rows of tables that belong to the set of one or

more tables;

generating a column object based on said first set of data; and

presenting a second set of data from tables that belong to said set of one or more tables as

said object that has said column object as an attribute.

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4 one or more databases;
5 a set of one or more tables contained in said one or more databases;
6 said processor configured to read a first set of data from one or more rows of tables that
7 belong to the set of one or more tables;
8 said processor configured to generate a column object based on said first set of data; and
9 said processor configured to represent a second set of data from tables that belong to said
10 set of one or more tables as said object that has said column object as an attribute.

1 20. A computer-readable medium carrying one or more sequences of one or more
2 instructions for presenting data from a set of one or more tables as a set of objects,
3 wherein the execution of the one or more sequences of the one or more instructions
4 causes the one or more processors to perform the steps of:
5 reading data from one or more rows of the set of one or more tables;
6 generating an object id based on values from said one or more rows; and
7 presenting data from said one or more rows as an object having said object id.

1 21. The computer readable medium Claim 20, wherein the step of generating an object id
2 based on values includes generating an object id based on values from one or more rows
3 of a relational table that belongs to the set of one or more tables.

1 22. The computer readable medium of Claim 21, wherein:
2 the one or more sequences of instructions includes one or more instructions for
3 performing the steps of:
4 receiving a request to define a view, said request specifying one or more columns
5 of the set of one or more tables containing values used to generate said
6 object id;